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Chapter 5

Schooling's Influences on Motivation and Achievement

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In this chapter, we review two bodies of research relevant to investing in children. First, we review what we know about the development of motivation, focusing on the middle childhood and early adolescent years. As motivational psychologists, we believe that children's performance in and out of school is greatly influenced by their motivation to learn and their willingness to engage in productive learning activities. If we are to design effective programs to help children acquire the soft skills and the knowledge needed for a successful transition to adulthood, we need to understand the motivational bases underlying their willingness to participate and engage in such programs. Second, we review what we know about classroom-level and school-level influences on motivation and learning. We focus on instructional practices in elementary and middle schools. In each section, we discuss policy implications and describe programs that have been effective in improving children's motivation and achievement.

We focus on the early adolescent years because that is a time of great change in many different aspects of children's lives. Sustaining children's motivation through this transitional period can be crucial to their future success. A number of the authors in this volume—for example, James Heckman and Lance Lochner; Craig Ramey and Sharon Landesman Ramey; and Barry Zuckerman and Robert Kahn—emphasize the importance of early investments in children to their later developmental outcomes. We agree that early intervention is important, but like Margaret Beale Spencer and Dena Phillips Swanson in this volume, we believe that the early adolescent years are another crucial time period in which investments in children's development can have important benefits to them.

MOTIVATIONAL BASES OF COMPETENCE DEVELOPMENT

Psychologists have proposed many different components of academic motivation. We ourselves have attempted to capture these components (Eccles, Wigfield, and Schiefele 1998) in four basic motivation questions that children can ask themselves: Can I succeed at this task? Do I want to do this task? Why am I doing this task?

What do I have to do to succeed at this task? The answers to these questions determine children's engagement with academic tasks as well as their general commitment to the educational goals of their parents and teachers. Children and adolescents who develop positive, productive answers to these questions are likely to engage in their schoolwork and to thrive in school settings. Those who develop less positive or less effective answers are likely to experience school failure and to withdraw their psychological attachments from school, increasing the likelihood that they will turn to riskier and less productive settings for psychological nurturance. In the first part of this chapter, we focus on the first three questions.

"Can I Succeed at This Task?": Children's Competency Beliefs and Expectations

In this section, we focus on constructs related to ability self-perceptions and expectations of success. The empirical evidence linking these beliefs to task engagement and learning is not reviewed here (see Eccles et al. 1998). We discuss instead the general decline in these beliefs as children pass through elementary and secondary school. For some, this decline begins as soon as they enter school; for others, it begins later and then accelerates as they pass through secondary school. The implications of these declines for engagement in school are a major concern for educational policymakers.

EXPECTANCY-VALUE THEORY Jacquelynne Eccles and her colleagues have tested an *expectancy-value model* of achievement-related choices and engagement (see, for example, Eccles et al. 1983; Eccles et al. 1998; Wigfield and Eccles 1992). In this model expectancies and values are assumed to influence performance, persistence, and task choice directly. Expectancies and values are assumed to be influenced by task specific beliefs such individuals' perceptions of their own competence, perceptions of the difficulty of different tasks, and their individual goals and self-schema. These social-cognitive variables, in turn, are influenced by the individuals' perceptions of other peoples' attitudes and expectations for them, by their own interpretations of their previous achievement outcomes, and by their affective memories of, or affective expectations about, similar tasks. Individuals' task perceptions and interpretations of their past outcomes are assumed to be influenced by the behaviors and beliefs of socializers, by their own histories of success and failure, and by the broader cultural milieu and unique historical events.

Eccles and her colleagues (1983) defined "expectancies for success" as a children's beliefs about how well they would do on either immediate or future tasks and "beliefs about ability" as the children's evaluations of their more general level of competence in different areas. However, empirical work has shown that children and adolescents do not distinguish between these two different levels of beliefs (Eccles and Wigfield 1995). Apparently, even though these constructs are theoretically distinguishable from each other, in real-world achievement situations they are highly related and empirically indistinguishable.

CHANGE IN THE MEAN LEVEL OF CHILDREN'S COMPETENCE-RELATED BELIEFS Children's competence-related beliefs for different tasks decline across the elementary school years and into the middle school years (see Eccles et al. 1998; Stipek and Mac Iver 1989). John Nicholls (1979) showed, for instance, that most first-graders ranked themselves near the top of the class in reading ability and that there was essentially no correlation between their ability ratings and their performance level. In contrast, the twelve-year-olds' ratings were more dispersed, and their correlation with school grades was .70 or higher. Similar declines occur in other subject areas (particularly math), often continuing into and through secondary school (Eccles et al. 1983; Eccles et al. 1989; Wigfield et al. 1991; Wigfield et al. 1997).

Allan Wigfield and his colleagues (1997) reported the results of a three-year longitudinal study of three cohorts of elementary school-age children. Children's music and reading ability self-concepts declined the most, especially across grades one through four. Math and sports ability self-concepts also declined. The Michigan Study in Adolescent Life Transitions (MSALT) (see Eccles et al. 1989; Wigfield et al. 1991) examined how students' self-concepts of ability changed across the transition to junior high school. Students were interviewed two times in sixth grade and two times in seventh grade. Their confidence in their math and English abilities showed a marked decline over this school transition and during the first year of junior high school. Self-esteem also dropped over the school transition, followed by a partial rebound during the seventh grade (Wigfield et al. 1991).

Entrance into elementary school and then the transition from kindergarten to first grade introduce several systematic changes in children's social worlds. First, classes are age-stratified, making social comparisons of within-age ability much easier. Second, formal evaluations of competence by "experts" begin. Third, formal ability grouping begins, usually with reading group assignments. Fourth, peers have the opportunity to play a much more constant and salient role in children's lives. Each change has an impact on children's motivational development. Parents' expectations for, and perceptions of, their children's academic competence are also influenced by report card marks and the standardized tests given during the early elementary school years, particularly for mathematics (Alexander and Entwisle 1988; Arbreton and Eccles 1994).

There are long-term consequences of first-grade experiences, particularly those associated with ability grouping and differential teacher treatment. For example, teachers assign first-graders to reading groups based on characteristics like interest and persistence, race, gender, and social class (see, for example, Alexander, Dauber, and Entwisle 1993; Brophy and Good 1974). These assignments and the associated patterns of teacher-student interactions affect motivation and achievement several years later.

In conclusion, children's competence beliefs and expectancies for success become more negative as they get older, at least through early adolescence. The negative changes in children's achievement beliefs have been explained in two ways. First, because children become better at understanding, interpreting, and integrating evaluative feedback, and because they engage in more social comparison with their peers, many of them should become more accurate or realistic in their self-assessments,

leading some to become relatively more negative. Second, because school environments change in ways that make evaluation more salient and competition between students more likely, some children's self-assessments decline as they get older (see, for example, Eccles, Midgley, and Adler 1984; Eccles and Midgley 1989). We return later to the ways in which instructional practices can alleviate these declines.

"Do I Want to Do This Task?": Subjective Task Values and Intrinsic Motivation

Eccles and her colleagues (1983) outlined four motivational components of task value: attainment value, intrinsic value, utility value, and cost. They defined "attainment value" in terms of the personal importance of doing well on the task and the relevance for an individual of engaging in a task for confirming or disconfirming salient aspects of his or her self-schema; "intrinsic value" in terms of the enjoyment the individual receives from performing the activity, or the subjective interest he or she has in the subject; and "utility value" in terms of how well a task relates to the individual's current and future goals, such as career goals. A task can have positive value because it facilitates important future goals, even if the individual is not interested in the task for its own sake. For instance, students often take classes that they do not enjoy but that they need to take to pursue other interests, to please their parents, or to be with their friends. Finally, Eccles and her colleagues conceptualized cost in terms of the negative aspects of engaging in the task, such as performance anxiety and fear of both failure and success, as well as the amount of effort needed to succeed and the lost opportunities resulting from making one choice rather than another.

Ability self-concepts and performance expectancies predict performance in mathematics and English, whereas task values predict course plans and enrollment decisions in mathematics, physics, and English and involvement in sports activities even after controlling for prior performance levels (Eccles 1984; Eccles et al. 1983; Eccles and Harold 1991). Both expectancies and values predict career choices (see Eccles et al. 1998).

Even during the early elementary grades, children appear to have distinct beliefs about what they are *good* at and what they *value*. As with competence-related beliefs, there are age-related declines in children's valuing of certain academic tasks (see, for example, Eccles et al. 1983, 1993; Eccles and Midgley 1989; Wigfield and Eccles 1992). For instance, among elementary school children, *beliefs* about the usefulness and importance of math, reading, instrumental music, and sports activities decreased over time (Wigfield et al. 1997). In contrast, their *interest* decreased only for reading and instrumental music—not for either math or sports.

The decline in the valuing of math continues through high school (Eccles 1984). Eccles and her colleagues (1989) and Wigfield and his colleagues (1991) also found that children's ratings of both the importance of math and English and their liking of these school subjects decreased across the transition to junior high school. In math,

students' importance ratings continued to decline across seventh grade, whereas their importance ratings of English increased somewhat during seventh grade.

Over time, particularly in the achievement domain, children may begin to attach more value to activities in which they do well, for several reasons. First, the positive affect they experience when they do well should become attached to activities that yield success (see Eccles 1984). Second, lowering the value attached to activities with which they are having difficulty can be an effective way to maintain a positive global sense of efficacy and self-esteem (see Eccles 1984; Eccles, Wigfield, and Blumenfeld 1984; Harter 1990). Thus, at some point the two kinds of beliefs should become positively correlated.

INTRINSIC MOTIVATION When individuals are *intrinsically* motivated, they do activities for their own sake and out of interest in the activity. When *extrinsically* motivated, individuals do activities for instrumental reasons, such as receiving a reward.

DEVELOPMENTAL CHANGES IN INTRINSIC MOTIVATION Intrinsic motivation in general, and for different subjects in particular, declines over the elementary school years (Harter 1981; Wigfield et al. 1997). The transition from elementary to middle school also results in a decrease in intrinsic motivation and interest in different school subjects (see Eccles et al. 1993). Such changes are likely to lead to decreased school engagement. The origins of these changes are probably similar to the causes of declines in expectations and ability-related self-confidence, namely, shifts in the nature of instruction across grade levels, cumulative experiences of failure, and increasing cognitive sophistication.

"Why Am I Doing This?": Achievement Goal Orientations

Goal theory focuses on why children think they are engaging in particular achievement-related activities and what they hope to accomplish (see, for example, Ames 1992b; Maehr and Midgley 1996; Thorkildsen and Nicholls 1998). Questions like "Will I look smart?" and "Can I outperform others?" reflect ego-involved goals. In contrast, with task-involved goals, individuals focus on mastering tasks and increasing their competence. Questions such as "How can I do this task?" and "What will I learn?" reflect task-involved goals. With ego-involved (or performance) goals, children try to outperform others and are more likely to do tasks they know they can do. Task-involved (or mastery-oriented) children choose challenging tasks and are more concerned with their own progress than with outperforming others.

The little available developmental work reveals a pattern of change not unlike the patterns discussed earlier for expectancy-related beliefs and values. At the population level, there appears to be an increase in ego-focused goals and competitive motivation. Given what we know about individual differences in goal orientation, such a shift is likely to lead at least some children (particularly those doing poorly in school) to disengage from school as they get older.

The Nature and Development of Motivation: Policy Implications

Children's competence-related beliefs, task values, intrinsic motivation, and goal orientations are thought to be among the most crucial aspects of motivation. Unfortunately, for many children these aspects of motivation become less positive over the school years. Moreover, less desirable aspects of motivation (extrinsic motivation, performance goals, anxiety) often increase during these years. What can be done to alleviate these declines so that more children will be able to maintain positive motivation? Some policy-oriented researchers have developed programs that focus on changing the individual. Others have worked on changing classroom and school environments to facilitate motivation.

DEVELOPMENT AND REMEDIATION OF TEST ANXIETY Kennedy Hill and Seymour Sarason (1966) found that anxiety both increases across the elementary and junior high school years and becomes more negatively related to subsequent grades and test scores. Highly anxious children's achievement test scores were up to two years behind those of their low-anxiety peers, and girls' anxiety scores were higher than boys'. Hill and Wigfield (1984) estimated that as many as 10 million children and adolescents in the United States experience significant evaluation anxiety.

High anxiety is hypothesized to emerge when parents have overly high expectations and put too much pressure on their children; to date few studies have tested this proposition. Anxiety continues to develop in school as children face more frequent evaluation, social comparison, and (for some) experiences of failure; to the extent that schools emphasize these characteristics, anxiety becomes a problem for more children as they get older (Hill and Wigfield 1984). Successful anxiety intervention focuses on changing the negative, self-deprecating thoughts of anxious individuals and replacing them with more positive, task-focused thoughts (Wigfield and Eccles 1989).

DEVELOPMENT AND REMEDIATION OF LEARNED HELPLESSNESS Helpless individuals are more likely to attribute their failures to uncontrollable factors, such as lack of ability, and their successes to unstable factors (see Dweck and Goetz 1978). When encountering difficult tasks, helpless children begin to perform badly, ruminate about their difficulties, and focus on their inadequacies. By contrast, when confronted by difficulty (or failure), mastery-oriented children persist, stay focused on the task, and sometimes even use more sophisticated strategies. Further, helpless children view their intelligence as fixed, whereas mastery-oriented children believe they can improve their intelligence.

The development of learned helplessness depends on the kinds of feedback children receive from parents and teachers about their achievement outcomes, particularly feedback that their failures are due to lack of ability. Audrey Hokoda and Frank Fincham (1995) found that mothers of helpless third-grade children (in comparison to mothers of mastery-oriented children) gave fewer positive affective comments to their children, were more likely to respond to their children's lack of confidence in their ability by telling them to quit, were less responsive to bids for help, and did not focus them on mastery goals. Girls may be more likely than boys to receive neg-

ative ability feedback in elementary school classrooms, although the research is not completely consistent (see Dweck et al. 1978; Eccles et al. 1983).

Various training techniques (including operant conditioning and specific attributional feedback) can improve children's task persistence and performance by changing their failure attributions from lack of ability to lack of effort (see, for example, Dweck 1975). However, two problems have been noted. First, what if the child is already trying very hard? Then the attribution retraining may be counterproductive. Second, telling children to "try harder" without providing specific strategies to improve performance is likely to backfire: children may put in massive amounts of effort and still not succeed if they don't know how to apply that effort. Therefore, some researchers (such as Borkowski and Muthukrisna 1995) have advocated using strategy retraining in combination with attribution retraining to provide specific ways to remedy achievement problems.

Self-efficacy training can alleviate learned helplessness. First, the training increases both children's performance and their sense of self-efficacy (Schunk 1991). Second, training children to attribute their success to ability has a strong impact on self-efficacy. Third, training children to set proximal, specific, and challenging goals enhances self-efficacy and performance. Fourth, training that emphasizes process goals (analogous to task goals) increases self-efficacy and skills in writing more than an emphasis on product (ego) goals (Schunk 1991). Combining strategy training, goal emphases, and feedback to show children how various strategies relate to their performance has a strong effect on subsequent self-efficacy and skill development.

SELF-WORTH MAINTENANCE Because children spend so much time in classrooms and are evaluated so frequently there, Martin Covington (1992) argued, they must protect their sense of academic competence in order to maintain their sense of self-worth. One way to accomplish this goal is to attribute success to both ability and effort and to attribute failure to insufficient effort (Covington and Omelich 1979; Parsons, Kaczala, and Meece 1982). Attributing failure to lack of ability is a particularly problematic attribution that students wish to avoid.

However, school evaluation, competition, and social comparison make it difficult for many children to maintain the belief that they are academically competent. Thus, many children develop strategies to avoid appearing to lack ability, including procrastination, making excuses, avoiding challenging tasks, and, most important, not trying. Although trying is critical for success, if children try and fail, it is difficult to escape the conclusion that they lack ability. Therefore, if failure seems likely, some children will not try, precisely because trying and failing threatens their ability self-concepts. Covington (1992) suggested that reducing the frequency and salience of competitive, social-comparative, and evaluative practices and focusing instead on effort, mastery, and improvement would allow more children to maintain their self-worth without having to resort to the failure-avoiding strategies just described.

STUDENT APATHY Perhaps the most difficult motivation problem is student apathy. As Jere Brophy (1998) noted, anxious and helpless students have problems dealing with difficult material and are at risk for failing, but they continue to value learning. Because apathetic students see little value in learning, it is difficult for

teachers to engage them in learning and to see its purposes. Teachers can work with apathetic students by developing contracts to get them involved in work, trying to build close relationships with them, capitalizing on the things they are interested in, and helping them to appreciate what learning can do for them. Brophy notes however, that this often is a difficult process and may not be successful. Along with these efforts focused on the individual student, broader changes in classroom instructional methods may be needed.

SCHOOLING AND HUMAN DEVELOPMENT

Children spend many of their waking hours in either schools or various community-based settings (such as churches, playgrounds, and neighborhood streets). Schools hold a central place in children's development. From the time they enter school until they complete formal schooling, children spend more time in schools than any other place outside their homes. Consequently, educational institutions play a central role in both promoting children's acquisition of knowledge and shaping the ways in which they learn to regulate their attention, emotions, and behavior. Schools can either promote or undermine children's developmental competence. First we focus on some general ways in which schools and classrooms influence motivation to learn; then we discuss the transition from elementary school into either junior high or middle school.

School resources and structure are an important issue in their own right (see Lynch, this volume; and Heckman and Lochner, this volume). Two aspects of structure are worth noting. One is school size: children of all ages (and their teachers) scored better on a wide variety of indicators of successful development if they were in small rather than large schools (see Wigfield, Eccles, and Pintrich 1996). A second structural issue is how schools are organized; we focus on middle school structure in this chapter. Beyond resources and structure, the organizational, social, and instructional *processes* that occur in schools also affect development.

School effects operate at different levels: at the level of the school as a whole, in the classroom, and at the interpersonal level. School's effects on children's behavior are mediated through various psychological processes at the individual level. These mediating processes include both children's achievement-related beliefs and their perceptions of the school context.

Classroom-Level Influences: Teachers' Roles and Beliefs

TEACHER'S GENERAL BELIEFS ABOUT THEIR ROLE The teacher's beliefs about his or her role as a teacher affect children's functioning by influencing the nature of the interactions between children and the teacher. Consider the distinction between the role of "academic instructor" (oriented toward teaching academic content and getting children to master academic material; fostering the "good student") and the role of "socializer" (oriented toward addressing children's social-emotional and behav-

ioral needs and problems; fostering the "good citizen"). Brophy (1985) found that teachers who saw themselves primarily as instructors responded more negatively to underachieving, academically unmotivated, or disruptive students during learning activities than to other students. In contrast, teachers attuned to their role as a socializer responded most negatively to hostile, aggressive, and defiant students or to those who thwarted the teachers' efforts to form close personal relationships. The most effective elementary school teachers blended these two aspects of the teacher role, although emphasis on academics was critical to ensuring academic achievement.

Some teachers think of themselves as responsible for weeding out students who are less capable; others think of themselves as cultivators of all students. "Weeders" endorse the view that intelligence cannot be increased with practice, tend to hold performance goals for their students, and are more likely to use competitive motivational strategies. These culturally rooted beliefs about the nature of intelligence and the role of teachers influence the teacher practices in ways that either facilitate all children's performance or create disparities in performance and motivation.

GENERAL SENSE OF EFFICACY When teachers hold high generalized expectations for student achievement and students perceive these expectations, students achieve more, experience a greater sense of esteem and competence as learners, and resist involvement in problem behaviors (Eccles and Wigfield 1985, 1995; Roeser, Eccles, and Sameroff 1998; Rutter 1983; Weinstein 1989). Such expectations, when communicated to the child, become internalized in positive self-appraisals that enhance feelings of worth and achievement. Similarly, teachers who feel they can reach even difficult students, who believe they can affect students' lives and influence developmental outcomes above and beyond other social influences, tend to communicate such positive expectations and beliefs to their students. Thus, a high sense of teacher efficacy can enhance children's own beliefs about their ability to master academic material, thereby promoting effort investment and achievement (Ashton 1985; Midgley, Feldlaufer, and Eccles 1989). On the other hand, low feelings of teacher efficacy often lead to behaviors that are likely to reinforce feelings of incompetence in the child, potentiating both helpless responses to the classroom and the development of depressive symptoms (see Cole 1991; Roeser, Eccles, and Sameroff 1998).

DIFFERENTIAL TEACHER EXPECTATIONS Teachers form differential expectations about students, and students believe that teachers treat them differently based on these expectations. High achievers are seen by all students as receiving higher expectations, more opportunities to participate in class, and more choice about work, whereas low achievers are seen as receiving more negative feedback, more control, and more feedback on completing work and following rules. The greater the perceived differential treatment in a classroom, the greater the impact of teacher expectations on achievement and children's self-perceptions of competence (Weinstein 1989).

Research on teacher expectancy effects has focused on differential treatment related to gender, racial-ethnic group, and social class, investigating the potential undermining effects of low teacher expectations on girls (for math and science), on minority children (for all subject areas), and on children from families of lower

socioeconomic class (SES) (for all subject areas) (for reviews, see Brophy and Good 1974; Eccles and Wigfield 1985; Jussim, Eccles, and Madon 1996). Although teacher expectancies by and large are accurate (Jussim, Eccles, and Madon 1996), biased teacher expectancies are more apt to affect girls, low-SES students, and minority students. Claude Steele (1992) linked this differential treatment, particularly for African American students, to school disengagement and disidentification (the separation of the child's self-esteem from all forms of school-related feedback). Steele argued that African American students become aware of the fact that teachers and other adults have negative stereotypes of their academic abilities. This awareness increases their anxieties, which, in turn, lead them to protect their self-esteem by disidentifying with the school context.

Bernard Weiner (1986) hypothesized that teachers' emotional reactions convey their expectations to students; that is, they are likely to display pity in providing negative feedback to those students for whom they have low expectations, and anger toward those students for whom they have high expectations. Such a difference in affect could underlie teacher expectancy effects. Sandra Graham (1991) manipulated bogus instructors' emotional reactions to experimental subjects' (learners') performance on a laboratory task: "instructors" who showed pity and offered excessive help, for example, produced "learners" who either attributed their "failures" to lack of ability and lowered their expectations for success (Graham and Barker 1990) or engaged in a variety of behaviors (for example, making excuses for their poor performance) designed to maintain their sense of self-worth (Covington 1992). Similarly, Jacquelynne Parsons, Carol Kaczala, and Judith Meece (1982) demonstrated that, when praise conveys low teacher expectations (patronizing praise, for instance, for low-level successes), it undermines junior high school students' confidence in their abilities as well as their expectations for success. When overt criticism conveys high teacher expectations (that is, when the teacher uses public criticism only with the high-performing students because the teacher wants to protect the low-performing students' egos), high rates of criticism are associated with higher student confidence in their academic ability.

TEACHERS' BELIEFS REGARDING THE NATURE OF ABILITY Some individuals conceive of intellectual abilities as stable, largely inherited potentials; others see them as acquired skills. Carol Dweck and Elaine Elliott (1983) refer to this distinction as the difference between an entity view of intelligence and an incremental view. When the entity view of intelligence is emphasized in schools, grouping by ability, differential rewards for high achievers, public evaluative feedback, and academic competitions are more common. Such practices can promote the notion that academic success is the outperforming of others and the proving of ability (Ames 1992a). Unfortunately, most youth, by definition, are not "the best" and thus may not receive rewards and recognition in classrooms that emphasize relative ability. In ability-oriented classrooms, children are more likely to use low-level strategies to learn, to experience more anxiety and negative affect, and to devote attentional resources to strategies intended to make themselves look smarter or to avoid looking dumber than others (Ames 1992b; Covington 1992). Responding to academic failure with learned helplessness, avoiding engagement in

work, and having a negative emotional experience are reactions that low-ability students are more likely to have in ability-focused environments (Dweck and Elliott 1983; Nicholls 1984).

In contrast, teachers who hold an incremental view of intelligence tend to adopt a "task goal" orientation that stresses self-improvement and effort as the major hallmarks of academic success. These teachers acknowledge individual effort and improvement regardless of a child's current ability level, provide choice and collaborative work, and emphasize that mastering new content, learning from mistakes, and continuing to try are all crucial hallmarks of success. Such practices reduce children's concerns about their ability relative to peers and their feelings of self-consciousness, anxiety, or disenfranchisement. In mastery-focused environments, children use deeper processing strategies to learn, report more positive and less negative affective states, and seem less concerned with their current ability and more concerned with task mastery, understanding, and self improvement (Ames 1992b).

TEACHER ROLES AND BELIEFS: POLICY IMPLICATIONS Teacher beliefs and expectancies have a strong impact on children's motivation and performance. These effects may be stronger for minority students and for girls. There are several policy implications. First, teachers must be convinced that all students can learn—that is, that ability is incremental and not entity-based. Second, teachers must believe in their ability to reach different students and increase achievement for all. Teachers should expect the most from each of their students, not just from some. Third, teachers must be aware that their expectancies for students sometimes can undermine students' motivation and performance, especially for minority students and for girls in subject areas like math and science.

How can these goals be accomplished? First, teacher training programs should teach about the effects of beliefs and expectancies. Second, teacher training programs and subsequent professional training should emphasize how to monitor expectancies for different students and how to change them as appropriate. Third, principals and others should observe teachers in the classroom and document how they behave toward different students. Because the pace of classroom instruction is so quick, teachers often find it difficult to monitor how they treat different students, and so observers can provide this information.

Classroom-Level Influences: Instructional Practices

ORDERLINESS AND PREDICTABILITY In rooms where teachers have established efficient procedures for monitoring student progress, providing feedback, enforcing accountability for work completion, and organizing group activities, student achievement and conduct are enhanced. The quality of classroom management also contributes to differences in children's motivation. For example, Phyllis Blumenfeld and her colleagues (1983) found that classroom academic orientation has benefits for children's perceptions of the importance of adherence to classroom work norms. Where children are held accountable, they may exert more effort, value success more, see themselves as more able, and consequently do better.

CONTROL AND AUTONOMY Classroom authority structure is important for the development of children's regulation of their achievement behavior (Deci and Ryan 1985). Some researchers (Boggiano et al. 1992; Deci and Ryan 1985) have argued that intrinsic motivation is good for learning and that classroom environments that are overly controlling undermine intrinsic motivation, mastery orientation, ability self-concepts and expectations, and self-direction. In classroom settings where children are given opportunities to make choices, pursue their interests, and contribute to classroom discussions and decisions, a sense of autonomous, self-determined behavior in relation to schoolwork is inculcated. By contrast, in classrooms where few provisions for self-determined behavior are granted and where external rewards, punishments, and praise are frequently used to induce achievement behavior, children often believe their behavior is being controlled by factors outside themselves. In such a controlling environment, children may begin to work toward some goal extrinsic to learning, often with the least possible effort to attain a reward, rather than approaching learning for its intrinsic qualities of knowledge building and enjoyment.

Highly controlling practices in classrooms with troubled children can lead to escalating behavior problems and plummeting motivation (Cooper and Upton 1990). Teachers often respond to children who show poor achievement histories or underregulated behaviors, such as inattention, impulsivity, and aggression, with controlling methods (sanctions, public feedback) to get them to learn or behave. Excessive use of extrinsic rewards and behavioral sanctions undermines low achievers' intrinsic motivation (Skinner and Belmont 1993) and leads to an escalation of negative behavior and feelings of defiance in emotionally troubled children (Cooper and Upton 1990). Unfortunately, classrooms with many low-ability or difficult children are often characterized by more teacher control and less innovative instructional practices (Oakes, Gamoran, and Page 1992). Such an emphasis on control is no doubt a response to characteristics of the students, though such practices are not likely to enhance behavioral or emotional engagement.

Despite these findings, adults have a strong preference for controlling teachers. Researchers videotaped teachers teaching children a set of tasks using either a controlling strategy or a less controlling strategy (Flink, Boggiano, and Barrett 1990). Observers of the tapes rated the more controlling teachers as better teachers despite the fact that the children had actually learned more under the less controlling teachers.

GENERAL TEACHING PRACTICES LINKED TO SELF-EVALUATION AND MOTIVATION Susan Rosenholtz and Carol Simpson (1984) suggested a cluster of teaching practices (for example, individualized versus whole group instruction; ability grouping practices; and public feedback) that should affect motivation because they make ability differences in the classroom especially salient to students (see also Mac Iver 1988). They assumed that these practices affect motivation by increasing the salience of extrinsic motivators and ego-focused learning goals, leading to a greater incidence of social comparison behaviors and increased perception of ability as an entity state rather than an incremental condition. These changes should reduce the quality of children's motivation and learning, but the negative consequences should be greater for low-performing children: as these students become more aware of

their relatively low standing, they are likely to adopt a variety of ego-protective strategies that undermine learning and mastery (Covington 1992; Rosenholtz and Rosenholtz 1981).

Evaluation practices also influence students' self-evaluation. Although students primarily use feedback and grades to judge their ability, how teachers report on and recognize performance affects the degree to which ability-related information is accessible, comparable, and salient (Rosenholtz and Rosenholtz 1981). Public methods for charting progress, such as wall posters, provide information that is readily available to students. In addition, teachers who frequently contrast students' performances, grant privileges to "smart" children, or award prizes for the "best" performances may increase the importance of ability and heighten the negative affect associated with failure (see Ames 1992a, 1992b). When there are few winners and many losers, relative performance may be more salient to children (Nicholls 1989). In contrast, in more cooperative or mastery-oriented classrooms, everyone who performs adequately can experience success. Youngsters in mastery-oriented rooms are more likely to focus on self-improvement than on social comparison, to perceive themselves as able, and to have high expectations for success (Covington 1992; Nicholls 1989). Finally, when variations in evaluations are either attributed to entity-based differences in competence or used as a controlling strategy rather than primarily for information on progress, intrinsic motivation is reduced. Thus, mastery evaluation practices are better at fostering and maintaining motivation than social-normative, competitive, or controlling evaluation practices (see also Maehr and Midgley 1996).

GIRLS AND MATH: GIRL-FRIENDLY CLASSROOMS Sex differences in children's preference for different types of learning contexts are likely to interact with subject area to produce sex differences in interest in different subject areas (Casserly 1980; Eccles 1989; Hoffmann and Haeussler 1995). Girls appear to respond more positively to math and science instruction if the teacher avoids sexism and if the subject is taught in a cooperative or individualized manner rather than a competitive manner, from an applied and person-centered perspective rather than from a theoretical-abstract perspective, and with a hands-on approach rather than a "book learning" approach. The reason given for these effects is the fit between the former teaching style and instructional focus, on the one hand, and girls' values, goals, motivational orientation, and learning, on the other. When more girl-friendly instructional approaches are used in math and science classes, girls as well as boys are more likely to continue taking courses in these fields and to consider working in them when they become adults.

TEACHER-STUDENT RELATIONSHIPS Quality teacher-student relationships provide the affective underpinnings of academic motivation and success (Moos 1979). Teachers who are trusting, caring, and respectful of students provide the social-emotional support that students need to persist on academic learning tasks and to develop positive, achievement-related self-perceptions and values (Goodenow 1993; Midgley, Feldlaufer, and Eccles 1989; Wentzel 1999). Students' perceptions of caring teachers enhance their feelings of self-esteem, school belonging, and posi-

tive affect in school (Roeser, Eccles, and Sameroff 1998). Teachers represent one stable source of nonparental role models for adolescents. They teach but also can provide guidance and assistance when social-emotional or academic problems arise, and they may be particularly important in promoting developmental competence when conditions in the family and neighborhood do not (Simmons and Blyth 1987).

TEACHING PRACTICES LINKED TO SELF-EVALUATION AND MOTIVATION: POLICY IMPLICATIONS Programs designed to facilitate student motivation and achievement emphasize teaching practices that facilitate competence beliefs, intrinsic motivation, and mastery goals. These programs have been implemented in elementary and middle school classrooms and have been successful in enhancing student motivation and achievement. We highlight some of these programs in this section (for further discussion, see Blumenfeld et al. 1991; Brophy 1998; Maehr and Midgley 1996; Stipek 1996).

There also are some school-based programs that use extrinsic rewards to foster student motivation and engagement. Many of these programs focus on reading during the early elementary school years (for a review, see Gambrell and Marniak 1997). These programs have been shown to increase the time and effort that students spend on activities such as reading, at least over the short term. However, such programs may not foster long-term engagement in learning (Anderman, Maehr, and Midgley, forthcoming; Brophy 1998). We therefore focus on programs designed to stimulate intrinsic motivation to learn and mastery goals.

Carole Ames (1992a) used the acronym TARGET to discuss the crucial characteristics of instructional practices that influence student motivation. TARGET stands for tasks, authority, recognition, grouping, evaluation, and time. Ames worked with elementary school teachers to structure each of these aspects of instruction in ways to maximize student motivation. To facilitate positive motivation in the classroom, tasks should be reasonably challenging and of interest to students. Authority in the classroom should be shared so that students have opportunities to participate in decisionmaking and to take responsibility for their own achievement. All students should receive recognition for their learning and effort. Grouping in class should be heterogeneous, and all students should work with a diverse mixture of their classmates. Students should be evaluated on progress and mastery rather than solely on outcomes, and comparative forms of evaluation should not be used. Finally, students need different amounts of time to master various classroom tasks. Ames (1992a) reported that the implementation of an elementary school curriculum based on the TARGET principles increased children's interest in learning, use of effective cognitive learning strategies, and attitudes toward learning.

Katheryn Au and her colleagues (Au 1997; Au et al. 1990) developed curricula to foster the development of literacy skills in native Hawaiians, a group that traditionally has done poorly in school. Their program, called the Kamehameha Elementary Education Program (KEEP), promotes students' sense of ownership over what they are learning by making the materials used culturally relevant to the children. Evaluations have shown that students are strongly engaged in the literacy activities and have a strong sense of ownership over them. In addition, over 67 percent of the

students in the program were at or above grade level in writing, whereas far less than half of the students in traditional classrooms were at or above grade level. The results of this program are especially encouraging because it has been implemented with students who traditionally do not do well in school and see little value in learning.

The Concept Oriented Reading Instruction (CORI) program, which is designed to foster engagement and achievement in reading (see Guthrie and Alao 1997; Guthrie et al. 1996), integrates science and reading, with a special emphasis on hands-on activities, collaborative projects, the use of interesting texts, and strategy instruction. The program was implemented in several elementary schools serving diverse student populations. Students in CORI achieve better and have stronger intrinsic motivation than do students in the same schools in traditional reading programs.

Maehr and Midgley (1996) argued that even when classroom-level programs are successful, there often are barriers at the school level that impede their full implementation. They therefore focused on changing the entire motivational culture of one elementary school and one middle school to enhance students' motivation and achievement. The basis for the intervention was Ames's (1992a) TARGET approach, which they expanded to the school level. They worked closely with staff at the schools to bring about the changes in school culture. Anderman, Maehr, and Midgley (forthcoming) assessed the effects of the program on student motivation, focusing on the elementary school students. They found no differences in student motivation during elementary school. However, students in the TARGET elementary school had more positive motivation in middle school than did students in a comparison school.

Academic Tracking and Curricular Differentiation

Tracking refers to regularities in the ways in which schools structure learning experiences for different students (Oakes, Gamoran, and Page 1992). Providing different educational experiences for students of different ability levels is a widespread, yet controversial, practice. Grouping takes different forms at different grades. It includes within-class ability grouping for different subjects, or between-class ability grouping in which different types of children are assigned to different teachers; the latter type often is referred to as tracking. Within-classroom ability grouping for reading and math is common in elementary school. During middle and high school, tracking becomes more widespread; students bound for different postsecondary school trajectories (college preparation, general, vocational) take sequences of specific courses. Tracking determines not only the quality and kinds of opportunities to learn the child receives (Oakes, Gamoran, and Page 1992) but also the child's exposure to different peers and thus, to a certain degree, the nature of social relationships formed in school (Fuligni, Eccles, and Barber 1995).

The best justification for tracking derives from a person-environment fit perspective. Children are more motivated to learn if the material can be adapted to their competence level. There is some evidence consistent with this perspective for children placed in high-ability classrooms, high-within-class ability groups, and

college tracks (Dreeban and Barr 1988; Fuligni, Eccles, and Barber 1995; Gamoran and Mare 1989; Pallas et al. 1994).

The results for children placed in low-ability and noncollege tracks differ. The use of either whole class instruction or within-class ability groups often creates situations that highlight ability differences and leads to both social comparison and differential teacher treatment of high and low achievers in the classroom (Eccles, Midgley, and Adler 1984). When this happens, low-ability children come to feel less competent, worthy, or valued precisely because their relatively lower ability is made salient (Covington 1992; Rosenholtz and Simpson 1984). These low-ability children also come to be perceived by their peers as less desirable than their high-achieving classmates—a perception that, in turn, is likely to increase their social isolation.

Low track placements have been related to poor attitudes toward school, feelings of incompetence, and problem behaviors both within school (nonattendance, crime, misconduct) and in the broader community (drug use, arrests), as well as to educational attainments (Oakes, Gamoran, and Page 1992). But whether academic tracks promote such outcomes or reflect preexisting differences remains a matter of considerable debate. These negative effects result from the stereotypically biased implementation of ability-grouping programs. A different result might emerge for the low-competence students if their teachers provided high-quality instruction and motivational practices tailored to the competence level of the students.

Another way to think about the impact of ability grouping on development is in terms of its impact on peer groups: between-classroom ability grouping and curricular differentiation promotes continuity of contact among children and adolescents with similar levels of achievement and engagement with school. For those doing poorly in school, such practices can structure and promote friendships among students who are similarly alienated and are more likely to engage in risky or delinquent behaviors (Dryfoos 1990). The "collecting" of children with poor achievement or adjustment histories also places additional burdens on their teachers, who often are new to the system when they are given these difficult assignments (Oakes, Gamoran, and Page 1992).

Tracking and ability grouping can also concentrate children with similar behavioral vulnerabilities. For instance, Kellam and his colleagues (1994) found that rates of moderate to severe aggression ranged between 7 to 8 percent and 63 percent among children in two different first-grade classrooms in the same school. This was due to between-class ability grouping policies. As a result, children in these two classrooms were exposed to different environments: one in which aggression was deviant (only 7 to 8 percent of students were aggressive) and one in which it was the norm (63 percent of students were aggressive). In classrooms with high rates of aggression, aggressive behavior may not lead to peer rejection, as it often does in other classrooms (Coie and Dodge 1998). In such an environment, aggression may confer status and social rewards among peers and thus be reinforced. By placing children with similar vulnerabilities in the same environment, the reinforcement of negative behavior and the promotion of friendships among similarly troubled children are more probable outcomes.

In summary, tracking provides an example of how school policy, teacher beliefs and instruction, and student characteristics can interact to create maladaptive transactions that perpetuate poor achievement and behavior among low-ability children. The placement of many low-ability children in a low-track classroom may cause some teachers to feel overwhelmed and ineffective. This response may translate into poor instruction, low expectations, and use of controlling strategies. These responses can fuel student disengagement, which then feeds back into the teachers' beliefs and practices. Eventually, the academic failure of certain low-ability children results from these reciprocal processes.

TRACKING AND ABILITY GROUPING: POLICY IMPLICATIONS What can be done to alleviate the problems associated with ability grouping and tracking? One suggestion is to eliminate them altogether. Many parents, teachers, and school administrators resist this suggestion. Another practice already occurs in many schools: using grouping in only certain classes (such as reading and math) and not using it for other subjects.

The use of collaborative or cooperative groups is an increasingly popular alternative to whole-group, ability-grouped, or individualized instruction at the elementary level. Robert Slavin (1990) concluded that cooperative learning techniques in which small groups of students receive recognition based on group performance lead to increases in achievement, self-esteem, and social acceptance among students of different social statuses and racial-ethnic backgrounds. Cooperative groups can provide numerous "niches" for students with different strengths to participate in the learning process, increase the amount of social support and reinforcement available for learning complex material, and increase contact among students of different abilities. Such consequences foster broader friendship networks and lessen social isolation (Slavin 1990).

Another controversial aspect of tracking is how students are placed in different classes and how they are moved between class levels as their academic needs and competencies change after initial placements are made. These issues are important both early (see, for example, Entwisle and Alexander 1993) and later in adolescence, when course placement affects post–high school options. Sanford Dornbusch (1994) found that 85 percent of his high school sample stayed in the same track; there was little mobility. Also, many average students were misassigned to lower track courses. Misassignment put these students on a path that would not lead them into the higher educational system. Of particular concern was the fact that these youth were more likely to be of color and poor. Neither the students nor their parents were informed of this tracking.

THE TRANSITION FROM ELEMENTARY SCHOOL TO MIDDLE SCHOOL

School transitions are a demonstration of how the multiple levels of school interact to affect development. All school districts must decide when they allow children to begin school and how they will group the grade levels within various buildings. One

common arrangement is to group kindergarten through sixth grade in elementary school, grades seven through nine in junior high school, and grades ten through twelve in senior high school. The other most common arrangement places the transitions after grade fives and eight—creating elementary, middle, and senior high schools. Children typically move to a new and often larger building at each of the major school transition points. These moves usually involve increased busing and exposure to a diverse student body. Such transitions influence children's development (see Eccles, Midgley, and Adler 1984; Higgins and Eccles-Parsons 1983). We focus on the transition from elementary school to middle school because it has been most widely researched.

There is substantial evidence of declines in academic motivation and achievement across the early adolescence years (approximately ages eleven to fourteen; see Anderman and Maehr 1994; Eccles and Midgley 1989; Eccles et al. 1993; Wigfield, Eccles, and Pintrich 1996). In many cases, the declines in motivation and achievement coincide with school transitions. For example, school grades decline as students move into junior high school (Simmons and Blyth 1987), as does their interest in school (Epstein and McPartland 1976), intrinsic motivation (Harter 1981), self-concepts and self-perceptions (Eccles et al. 1989; Wigfield et al. 1991), and confidence in their intellectual abilities, especially following failure (Parsons and Ruble 1977). There are also increases in test anxiety (Wigfield and Eccles 1989), learned-helplessness responses to failure (Rholes et al. 1980), focus on self-evaluation rather than task mastery (Nicholls 1990), and truancy and school dropout (Rosenbaum 1976). Academic failure and dropout are especially problematic among some ethnic groups and among youth from low-SES communities and families (Finn 1989). These groups are particularly likely to show these declines in academic motivation and self-perception as they move into and through the secondary school years.

Eccles and Midgley (1989) proposed that these negative developmental changes result from the fact that traditional junior high schools do not provide developmentally appropriate educational environments for early adolescents. They suggested that different types of educational environments may be needed for different age groups to meet individual developmental needs and foster continued developmental growth. Exposure to a developmentally appropriate environment would facilitate both motivation and continued growth; in contrast, exposure to a developmentally inappropriate environment, especially a developmentally regressive environment, should create a particularly poor person-environment fit, leading to declines in motivation as well as to detachment from the goals of the institution.

Factors Influencing Students' Adjustment to Junior High or Middle School

SCHOOL SIZE AND DEPARTMENTALIZATION Roberta Simmons and Dale Blyth (1987) pointed out that most junior high schools are substantially larger (by several orders of magnitude) than elementary schools and that instruction is also more

likely to be organized departmentally. As a result, junior high school teachers typically teach several different groups of students, making it very difficult for students to form a close relationship with any school-affiliated adult precisely at the point in development when there is a great need for guidance and support from nonfamilial adults. Such changes in student-teacher relationships are also likely to undermine the sense of community and trust between students and teachers, leading to a lowered sense of efficacy among the teachers, their increased reliance on authoritarian control practices, and an increased sense of alienation among the students. Finally, such changes decrease the probability that any particular student's difficulties will be noticed early enough for the student to receive the necessary help, thus increasing the likelihood that students on the edge will slip onto the negative motivational and performance trajectories that lead to increased school failure and dropout.

In earlier sections, we presented examples of how such school- and classroom-level characteristics may affect both teacher beliefs and practices, which affect children's development. But until quite recently, the relation of school transitions to these characteristics has rarely been considered. The extant work on these characteristics is reviewed next.

AUTHORITY RELATIONSHIPS Despite the increasing maturity of students, junior high school classrooms, compared to those in elementary school, often are characterized by a greater emphasis on teacher control and discipline and by fewer opportunities for student decisionmaking, choice, and self-management (see, for example, Midgley and Feldlaufer 1987; Moos 1979). For example, junior high school teachers spend more time maintaining order and less time teaching than elementary school teachers (Brophy and Everston 1976). Similarly, sixth-grade elementary school math teachers reported less concern with control and discipline than seventh-grade junior high school math teachers reported one year later for the same students (Midgley, Feldlaufer, and Eccles 1988). Midgley and Feldlaufer (1987) reported that both seventh-graders and their teachers in the first year of junior high indicated that students had fewer opportunities to participate in classroom decisionmaking than did these same students and their sixth-grade elementary school teachers one year earlier.

Stage-environment fit theory suggests that the mismatch between young adolescents' desires for autonomy and control and their perceptions of the opportunities in their learning environments should result in a decline in their intrinsic motivation and interest in school. Mac Iver and Reuman (1988) compared changes in intrinsic interest in mathematics for adolescents reporting different patterns of change in their opportunities for participation in classroom decisionmaking across the junior high school transition. Those adolescents who perceived their seventh-grade math classrooms as providing fewer opportunities than had been available in sixth-grade math reported the largest declines in intrinsic interest in math between sixth and seventh grades.

AFFECTIVE RELATIONSHIPS Junior high school classrooms are characterized by a less personal and positive teacher-student relationship than is found in elementary

classrooms. Given the association between classroom climate and student motivation, the move into a less supportive classroom leads to a decline in interest in the subject matter being taught in that classroom, particularly among the low-achieving students (Midgley, Feldlaufer, and Eccles 1988).

TEACHER EFFICACY Junior high school teachers also feel less efficacious than elementary school teachers, especially with low-ability students (Midgley, Feldlaufer, and Eccles 1988). Differences in teachers' sense of efficacy before and after the transition to junior high school contribute to the decline in the confidence of early adolescents, particularly low-achieving adolescents, in their academic abilities and potential (Midgley, Feldlaufer, and Eccles 1989).

ORGANIZATION OF INSTRUCTION The shift to junior high school is also associated with an increase in practices such as whole-class task organization and between-classroom ability grouping (see Eccles and Midgley 1989; Oakes 1981). As noted earlier, such changes increase social comparison, concerns about evaluation, and competitiveness (see Eccles, Midgley, and Adler 1984; Rosenholtz and Simpson 1984), as well as teachers' use of normative grading criteria and more public forms of evaluation, both of which have been shown to have a negative effect on adolescents' self-perceptions and motivation.

GRADING PRACTICES There is no stronger predictor of students' self-confidence and efficacy than their grades. Grades drop for many early adolescents as they make the junior high school transition (Eccles and Midgley 1989; Simmons and Blyth 1987). This decline in grades is not matched by a decline in the adolescents' scores on standardized achievement tests, suggesting that the decline reflects a change in grading practices rather than a change in the rate of the students' learning (Kavrell and Petersen 1984). Simmons and Blyth (1987) documented the impact of this grade drop on subsequent school performance and likelihood of dropping out. Even controlling for a youth's performance prior to the school transition, the magnitude of the grade drop following the transition into either junior high school or middle school was a major predictor of early school leaving.

MOTIVATIONAL GOALS Classroom practices related to grading practices, support for autonomy, and instructional organization affect the relative salience of the mastery versus performance goals that students adopt as they engage in learning tasks. The types of changes associated with the school transition in the middle grades should precipitate a greater focus on performance goals. Teachers and students in middle school indicated that performance-focused goals were more prevalent and task-focused goals were less prevalent in the middle school classrooms than did teachers and students in elementary school classrooms (Midgley, Anderman, and Hicks 1995). In addition, elementary school teachers reported using task-focused instructional strategies more frequently than did middle school teachers. Finally, at both grade levels the extent to which teachers were task-focused predicted the students' and the teachers' sense of personal efficacy; personal efficacy was lower among the middle school participants than among the elementary school participants.

Transition to Middle School: Policy Implications

The research reviewed in this section suggests that the transition to middle school is a difficult one for many children, that the school and classroom environments of middle school often do not match well with developmental needs, and that the typical kinds of instruction enhance extrinsic motivation and performance goals and decrease children's competence beliefs and intrinsic motivation. The resulting "poor fit" between the early adolescent and the classroom environment increases the risk of negative motivational and achievement outcomes, especially for those having academic difficulty. These and other difficulties that students experience in traditional junior high schools led many school districts to create middle schools, which would better meet the developmental needs of early adolescents (for discussion of the middle school movement, see Irvin 1992; Lipsitz et al. 1997).

Some attempts to deal with these issues start in elementary school, where elementary school teachers work with students to help them prepare for the transition. Many middle schools now have orientations for parents and students to begin to accustom students to what the new school will be like. To ease students' transitions into the middle school environment, many schools have created "schools within a school," especially for the youngest students in the school. They are housed in one part of the building, have lunch with students their own age, and generally are sheltered from the older students. These practices help establish a sense of community among the younger students, allowing them to be more comfortable in the new environment.

A related practice is teaming, in which teachers teaching various subjects work together with a group of 100 to 150 students. The teaming approach replaces the departmental structure, under which teachers teaching a given subject meet together. The advantages of the teaming approach include coordination of material across subject areas and a chance for teachers to work with a smaller group of students and therefore get to know them better. The teams meet to discuss students' progress in the different subjects, so teachers become concerned with the "whole child" rather than just one specific subject. Teaming can be done at all grade levels in middle school.

Another important change is providing students with the opportunity to meet with teachers in settings outside the classroom. Some teachers enjoy being mentors for students, and many early adolescents need guidance from supportive adults. These kinds of teacher-student relationships involve students more fully in the school and can help early adolescents deal with many issues. Systematic evaluations of the effects of these kinds of changes in early adolescents' motivation and achievement are needed.

SCHOOL-COMMUNITY LINKAGES

James Comer (1980) has stressed the importance of school-community links (see also Nettles 1991; and Sampson, this volume). He argues that schools are a part of the

larger community and that they are successful only to the extent that they are well integrated into that community. For example, schools need to be well connected to social services and to play a cooperative role in furthering the well-being of children and their families. Conversely, communities need to be actively engaged in their schools. For example, connecting the business community to the school can increase opportunities for students to make a smooth transition from school into the world of work. Such opportunities can range from field trips to employment settings, apprenticeships, and the direct involvement of employees in the instructional program of the school. Researchers have found that school-community linkages can lead to improvement in adolescents' achievement (Jordan and Nettles, forthcoming; Sanders 1996a,1996b).

Closer ties between schools and communities may be especially important in high-risk neighborhoods that lack structured opportunities for youth after school (see, for example, Carnegie Council on Adolescent Development 1989). In most communities, adolescents finish school by 2:00 or 3:00 P.M. Typically, their parents are working until early evening, leaving the adolescents largely unsupervised. Communities miss an opportunity to foster positive development through meaningful activities in this unsupervised period, which is also the time when adolescents are most likely to engage in problem behaviors. A closer collaboration between communities and schools could help solve this dilemma. School buildings could be used as activity centers, or school and community personnel could work together to design a variety of programs to meet the multiple needs of their youth (for further discussion of community programs, see Sampson, this volume). One promising program that attempts to facilitate school, family, and community connections is the National Network of Partnership-2000 schools. This program, based at Johns Hopkins's Center for Research on the Education of Students Placed at Risk, functions in several states across the country (see Sanders 1996a). Each year the program focuses on specific goals, such as improving student attendance or improving student achievement.

CONCLUSION

We began by summarizing what is known about motivation to learn, focusing on developmental changes in students' motivation through the elementary and middle school years. We described how the characteristics and practices of schools influence motivation and achievement. Thinking of schools as complex organizations, we stressed the interface of schools with the developmental trajectories of individuals.

We discussed the kinds of programs that have been developed to deal with the declines in students' motivation. These include programs designed to serve individual children, classroom-based programs, and programs involving change in entire schools. We also discussed efforts to ease children's transition from elementary school to middle school, such as creating teams of teachers working with the same group of children, creating "schools within schools," reducing the use of tracking, and establishing teacher-student mentoring programs. These changes in school struc-

ture and organization are designed to facilitate children's optimal development during the early adolescent years by providing a better fit between the qualities of the school environment and the developmental needs of early adolescents. These efforts need to be evaluated systematically in the next few years.

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